

**WHAT IS CLAIMED IS:**

1. A DNA labeling reagent of the formula:



wherein Fu represents a furocoumarin derivative selected from the group  
 5 consisting of angelicin derivatives and psoralen derivatives;

wherein BE represents none or a binding enhancer selected from the group  
 consisting of C<sub>4-12</sub> alkyl, alkyenyl, polyalkylamine and polyethylene glycol; and

wherein D represents a detectable group selected from the group consisting of:  
 biotin, fluorescence, acridinium ester and acridinium-9-carboxamide.

- 10 2. The reagent according to Claim 1, wherein Fu is angelicin derivatives.

3. The reagent according to Claim 2, wherein the angelicin derivatives is acid  
 salts of 4'-(Aminomethyl)-4,5'-dimethylangelicin.

4. The reagent according to Claim 3, wherein the acid salt is hydrochloride of  
 4'-(Aminomethyl)-4,5'-dimethylangelicin.

- 15 5. The reagent according to Claim 1, wherein BE is none, C<sub>4-12</sub> alkyl or  
 polyethylene glycol.

6. The reagent according to Claim 1, wherein BE is C<sub>4-12</sub> alkyl.

7. The reagent according to Claim 1, wherein D is biotin, acridinium ester or  
 acridinium-9-carboxamide.

- 20 8. The reagent according to Claim 7, wherein D is biotin.

9. The reagent according to Claim 7, wherein D is acridinium-9-carboxamide.

10. A process of preparing hydrochloride of 4'-(Aminomethyl)-4,5'-  
 dimethylangelicin comprising the steps of

(a) reacting 4'-(N-phthalimidemethyl)-4,5'-dimethylangelicin with hydrazine

hydrate to produce a mixture;

(b) dissolving the mixture in organic extracting solvent;

(c) introducing acid gas into the organic layer of the mixture to form a precipitate;

and

(d) washing the precipitate with organic solvent.

11. The process according to Claim 10 wherein step (a) is under the condition of heating the mixture to solvent reflux.

12. The process according to Claim 11 wherein the solvent is ethanol.

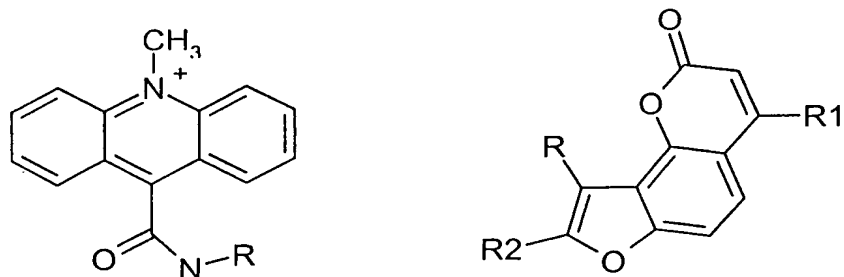
13. The process according to Claim 10 wherein the organic extracting solvent in step (b) is chloroform.

14. The process according to Claim 10, which further comprises a washing step by the use of water between step (b) and step (c).

15. The process according to Claim 10 wherein the acid gas in step (c) is HCl gas.

16. The process according to Claim 10 wherein the organic solvent in step (d) is chloroform.

17. A compound of the formula:



wherein R1 is H or C<sub>1-6</sub> alkyl or C<sub>2-6</sub> alkenyl; and

R2 is H or C<sub>1-6</sub> alkyl or C<sub>2-6</sub> alkenyl.

18. The compound according to Claim 17 wherein R1 is methyl and R2 is methyl.

19. The compound according to Claim 17 for use as a chemiluminescent label.

20. The compound according to Claim 18 for use as a chemiluminescent label.